

BIRDS OF KAWAL WILDLIFE SANCTUARY, ANDHRA PRADESH, INDIA<sup>1</sup>C. SRINIVASULU<sup>2</sup><sup>1</sup>Accepted July, 2001;<sup>2</sup>Wildlife Biology Section, Department of Zoology, Osmania University, Hyderabad 500 007, Andhra Pradesh, India.  
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Being a part of a large and contiguous forest tract in the Deccan Plateau, the Kawal Wildlife Sanctuary is an important Protected Area with high avian diversity. Altogether, 294 species belonging to 53 families were recorded during a two-year period between 1997 and 1999. Historical comparisons have also been drawn, and some species that were not recorded during this survey are discussed. The status of the Black-shouldered Woodpecker, Spotted Creeper and Little Spiderhunter is also discussed. It is proposed that further surveys in adjacent areas will yield interesting results and will be of considerable importance in recognizing this region as an Important Bird Area in Andhra Pradesh.

**Key words:** Kawal Wildlife Sanctuary, Adilabad district, avifauna, Andhra Pradesh

## INTRODUCTION

Kawal Wildlife Sanctuary is one of the oldest and faunistically most diverse Protected Areas in Andhra Pradesh. The first documentation of avian diversity from the Uttoor Forest was done in 1930-31 by Sálím Ali during the Hyderabad State Ornithological Survey (Ali and Whistler 1933a, b, c; 1934a, b). In early 1978, a party of the Zoological Survey of India collected birds from four different sites in Adilabad district, of which three, namely BirsaiPET, Itikyál, and Kadam are within the Kawal Wildlife Sanctuary (Majumdar 1984). Although the Forest Department staff and some members of the Birdwatchers' Society of Andhra Pradesh have documented birds from this region, the lack of a comprehensive checklist is quite evident. Keeping this in view, I maintained a record of bird sightings during field trips carried out while studying wild cervids for my doctoral research. This paper presents the first detailed systematic account of the avian diversity of Kawal Wildlife Sanctuary.

## STUDY AREA

Established in 1965, Kawal Wildlife Sanctuary (19° 05'-19° 20' N and 78° 32'-79° 12' E) covers an area of 893 sq. km, making it one of the largest and oldest gazetted wildlife sanctuaries in Andhra Pradesh. Located in Adilabad district, it is situated 45 km from Mancherál, 70 km from Nirmal and 260 km from Hyderabad. The general topography of the area is undulating, with hills on the northern boundary and a gentle slope towards the Godavari river flowing 6-12 km from the southern boundary of the Sanctuary (Fig. 1).

The major peaks are Mamidepalligutta (664 m), Mysemgutta (553 m) and Thattlakonda (443 m). Very

few waterbodies dot the area, the major ones being restricted to the northern region of the Sanctuary between BirsaiPET and Uttoor. On the southern side, the Kadam Reservoir and the associated canal network forms the lifeline of the Sanctuary. There are a number of large and small shallow waterbodies along the southern boundary, though not strictly within the Sanctuary limits. A few seasonal streams also crisscross the Sanctuary.

The forest is of Southern Tropical Dry Deciduous type with *Tectona grandis*, *Terminalia tomentosa*, *Terminalia arjuna*, *Anogeissus latifolia*, *Boswellia serrata*, *Cleisanthus collinus*, *Lannea coromandelica*, *Diospyros melanoxylon* and *Bombax ceiba*, being predominant (Champion and Seth 1968). Patches of natural clumps of bamboo *Dendrocalamus strictus* are also found in the Sanctuary. Three reserve forests, namely Itikyál, Kadam and Kawal falling under Nirmal and Janaram Forest Divisions comprise the Sanctuary. The major vegetation compositions in these reserve forests are teak mixed miscellaneous forest and teak mixed bamboo forest. Teak mixed bamboo forest is more dominant (55%) than the teak mixed miscellaneous forest (40%) while the remaining areas are teak plantations, scrub areas or village enclosures. A road connecting Mancherál with Nirmal and Adilabad divides the Sanctuary into three zones. Cultivated areas and human habitation are found in the villages named in the Methodology section, in and around the Sanctuary.

## METHODOLOGY

Regular monthly surveys following the imaginary grid method and line transect method by Gaston (1973) were carried out from March 1997 to March 1999, and bird records were maintained for the following selected areas of the Sanctuary: Uttoor, BirsaiPET, Rampur, Udhumpur, Laxmipur, Dosthnagar, Kadam, Itikyál,

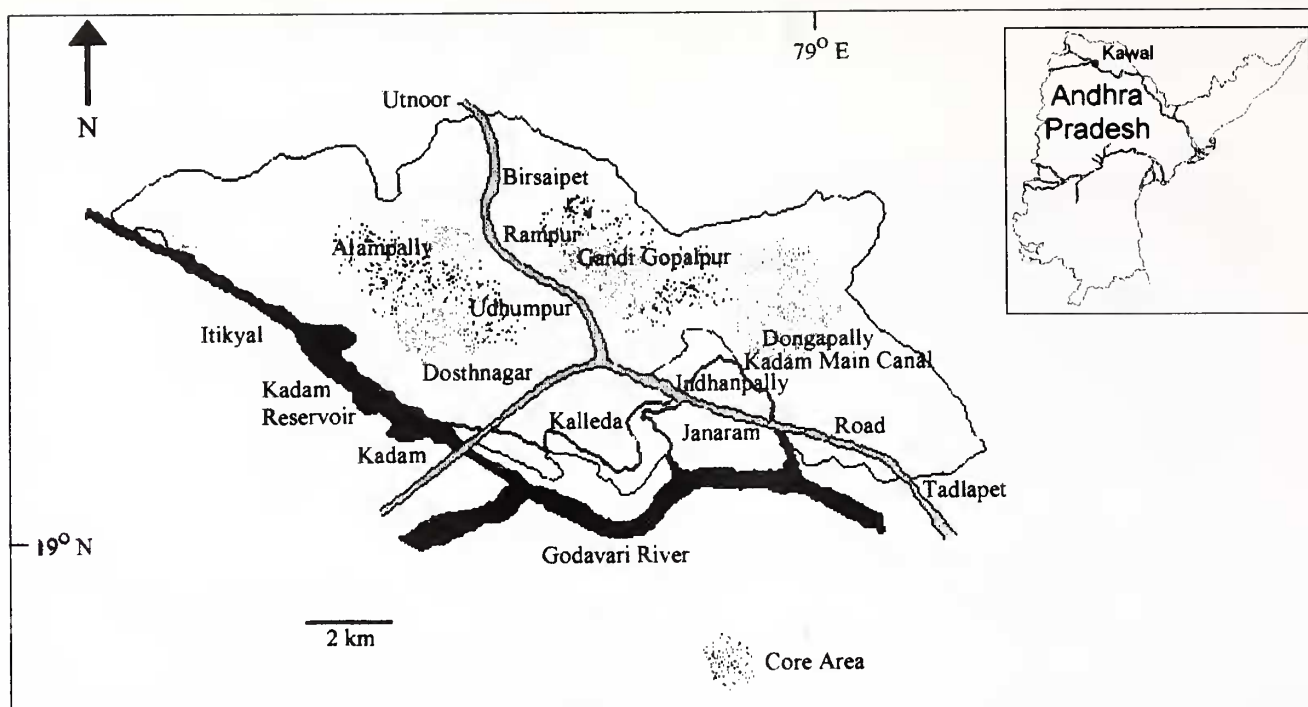


Fig. 1: Map of Kawal Wildlife Sanctuary, Andhra Pradesh

Kalleda, Narlapur, Indhanpally, Janaram, Kawal, Alinagar, Dongapally, Tapalapur and Tadlapet. Forested tracts within a radius of 2 to 8 km from these areas were selected for observations. Identification was based on Ali and Ripley (1983) and Ali (1996). Based on the number of sightings and occurrence, the status of a given species was assigned as common (encountered daily in relatively large numbers), uncommon (encountered daily but in small numbers) and rare (encountered less than 15 times a year).

## RESULTS AND DISCUSSION

A total of 294 species belonging to 185 genera, 53 families and 17 orders were recorded (Table 1). Of these 49% (144 species) are common, 33% (98 species) are uncommon and 18% (52 species) are rare. Of these 45% (133 species) are resident breeders, 17% (49 species) are residents that possibly breed within the Sanctuary, 17% (49 species) are winter migrants, 8% (23 species) are seasonal or local migrants, 12% (36 species) are rare, while the rest are stragglers (4 species contributing 1%). Significant sight records were Jerdon's Baza (*Aviceda jerdoni*), Great Black Woodpecker (*Dryocopus javensis*), Spotted Creeper (*Salpornis spilonotus*) and Little Spiderhunter (*Arachnothera longirostra*).

Among the common species, 75% (108 species) are resident breeders, 3% (5 species) probably breed within the Sanctuary, 3% (4 species) are resident with

no breeding records, 12% (17 species) are winter migrants, 6% (9 species) are probably residents or local migrants, and 0.69% (1 species) of undetermined resident status. Of the uncommon species, 28% (27 species) are resident breeders, 21% (21 species) are those that probably breed, 9% (9 species) are resident with no breeding records, 26% (26 species) are winter migrants, and 15% (15 species) are either seasonal or local migrants. Among the rare species, 56% (29 species) are of undetermined rare status, 17% (9 species) winter migrants, 6% (3 species) either seasonal or local migrants, 10% (5 species) stragglers, 1.0% (5 species) probable resident breeders, and one species (2%) that is, Black-shouldered Woodpecker (*Chrysocolaptes festivus*) is a rare resident breeder.

In the annotated checklist that follows, systematic listing is based on the Synopsis (Ripley 1982) and the common and scientific names follow Manakadan and Pittie (2001).

### 1. Little Grebe *Tachybaptus ruficollis* (Pallas)

Common. Resident breeder. Affects shallow waterbodies near human settlements and near Kadam Reservoir. Ali and Whistler (1934b) recorded this species from Utnoor.

### 2. Great Cormorant *Phalacrocorax carbo* (Linné)

Rare. Two records near Kadam Reservoir.

**Table 1:** Avian diversity of Kawal Wildlife Sanctuary, Adilabad district, Andhra Pradesh

Order	Family	No. of Genera	No. of Species
Podicipediformes	Podicipedidae	1	1
Pelecaniformes	Phalacrocoracidae	1	3
Ciconiiformes	Ardeidae	8	10
	Ciconiidae	3	3
	Threskiornithidae	4	4
Anseriformes	Anatidae	9	17
Falconiformes	Accipitridae	18	27
	Falconidae	1	4
Galliformes	Phasianidae	6	12
Gruiformes	Turnicidae	1	3
	Rallidae	6	6
Charadriiformes	Jacaniidae	2	2
	Charadriidae	9	17
	Rostratulidae	1	1
	Recurvirostridae	1	1
	Burhinidae	2	2
	Glareolidae	2	2
	Laridae	3	4
Columbiformes	Pteroclididae	1	2
	Columbidae	4	8
Psittaciformes	Psittacidae	1	3
Cuculiformes	Cuculidae	8	9
Strigiformes	Strigidae	8	8
Caprimulgiformes	Caprimulgidae	1	3
Apodiformes	Apodidae	4	4
Coraciiformes	Alcedinidae	3	3
	Meropidae	1	3
	Coraciidae	1	1
	Upupidae	1	1
	Bucerotidae	1	1
	Piciformes	Capitonidae	1
Passeriformes	Picidae	7	8
	Pittidae	1	1
	Alaudidae	6	8
	Hirundinidae	1	5
	Laniidae	1	4
	Oriolidae	1	3
	Dicruridae	1	4
	Artamidae	1	1
	Sturnidae	2	7
	Corvidae	2	3
	Campephagidae	3	6
	Irenidae	2	3
	Pycnonotidae	1	3
	Muscicapidae	27	42
	Paridae	1	2
	Sittidae	2	3
	Motacillidae	3	8
	Dicaeidae	1	2
	Nectariniidae	2	3
	Zosteropidae	1	1
Ploceidae	3	4	
Estrildidae	2	5	
Fringillidae	1	1	

### 3. Indian Shag *Phalacrocorax fuscicollis* Stephens

Rare. Recorded twice during the study period. Once each from the vicinity of Kadam Reservoir and Indhanpally Tank.

### 4. Little Cormorant *Phalacrocorax niger* (Vieillot)

Common. Recorded in fair numbers near Kadam Reservoir and its associated canal network, and also from smaller pools inside the Sanctuary. Breeding not recorded.

### 5. Grey Heron *Ardea cinerea* Linné

Uncommon. Probably a resident, though breeding not recorded within the Sanctuary. Regularly seen along the shallow waterbodies between Janaram and Kadam. Ali and Whistler (1934b) recorded this species from Utnoor.

### 6. Purple Heron *Ardea purpurea* Linné

Uncommon. Probably a resident, though breeding not recorded within the Sanctuary. A few individuals regularly recorded along the shallow waterbodies between Indhanpally and Kadam. Sálím Ali collected a female specimen from Utnoor (Ali and Whistler 1934b).

### 7. Large Egret *Casmerodius albus* (Linné)

Uncommon. Affects shallow waterbodies between Indhanpally and Kadam, and to a lesser extent those between Janaram and Tadlapet. Totally absent from July to September-October. Breeding not recorded from or around the Sanctuary.

### 8. Indian Pond-heron *Ardeola grayii* (Sykes)

Common. Resident breeder. Affects water edges, paddy fields, small streams and canals inside the Sanctuary. Breeding colonies recorded in the groves on fringe villages of Janaram, Indhanpally, Kadam, Utnoor, and Itikyál. Shares nesting trees with Little Egret and Cattle Egret. Ali and Whistler (1934b) recorded it from Utnoor. Majumdar (1984) found it to be common and collected a male from Kadam.

### 9. Cattle Egret *Bubulcus ibis* (Linné)

Common. Resident breeder. Large numbers affect the agro-ecosystem along the fringe villages. Seen following livestock that graze within the Sanctuary. Locals report that it follows the Indian Gaur (*Bos gaur*) too. Breeding colonies recorded in the groves of fringe villages of Janaram, Indhanpally, Kadam, Utnoor, and Tadlapet. Ali and Whistler (1934b) recorded this species from Utnoor.

10. **Median Egret *Mesophoyx intermedia* (Wagler)**

Common. Seen along with the Little Egret affecting waterbodies between Indhanpally and Kadam. Probably a local migrant, observed in good numbers between September and February, up to March.

11. **Little Egret *Egretta garzetta* (Linné)**

Common. Resident breeder. As numerous as Cattle Egret. Affects all waterbodies near human settlements as well as in forested tracts. Breeding colonies recorded in the groves of fringe villages of Janaram, Indhanpally, Kadam, Utnoor, Tadlapet, Itikyaly and Birsaiptet.

12. **Black-crowned Night-heron*****Nycticorax nycticorax* (Linné)**

Uncommon. Very few individuals have been recorded in waterbodies along the Kadam Reservoir and associated canals. Although breeding was not recorded within the Sanctuary, subadult birds were regularly encountered. Ali and Whistler (1934b) recorded this species from Utnoor.

13. **Chestnut Bittern*****Ixobrychus cinnamomeus* (Gmelin)**

Rare. Recorded thrice in the vegetation on the southwestern edge of Kadam Reservoir.

14. **Yellow Bittern *Ixobrychus sinensis* (Gmelin)**

Uncommon. Infrequently observed near Kadam Reservoir and large shallow waterbodies along the southern boundary of the Sanctuary. Breeding not observed.

15. **Painted Stork *Mycteria leucocephala* (Pennant)**

Uncommon. About 4-10 birds observed feeding busily in Indhanpally Tank between July and September. Sightings of juvenile individuals may indicate the presence of a breeding colony within 150-200 km radius of the Sanctuary.

16. **Asian Openbill-Stork *Anastomus oscitans* (Boddaert)**

Common. Regularly seen in large numbers (up to 70-80 individuals) in Indhanpally Tank. No breeding records within the Sanctuary, although juveniles were regularly sighted, indicating the presence of a breeding colony nearby. Majumdar (1984) collected a female from Kadam.

17. **White-necked Stork*****Ciconia episcopus* (Boddaert)**

Uncommon. Five records along the Kadam river downstream from Kadam Dam, other than a pair that was

regularly observed in teak plantations between Indhanpally, Narlapur and Kalleda from October to February.

18. **Oriental White Ibis*****Threskiornis melanocephalus* (Latham)**

Uncommon. Recorded between July and September along large shallow waterbodies between Indhanpally and Kadam.

19. **Black Ibis *Pseudibis papillosa* (Temminck)**

Common. Regularly recorded in good numbers in paddy fields along the southern boundary of the Sanctuary, and also between Birsaiptet and Utnoor. No breeding colony was recorded within or along the boundary of the Sanctuary.

20. **Glossy Ibis *Plegadis falcinellus* (Linné)**

Rare. Two records (3 and 8 individuals each), between Indhanpally and Kadam.

21. **Eurasian Spoonbill *Platalea leucorodia* Linné**

Uncommon. Recorded from September to February along large shallow waterbodies between Indhanpally and Kadam.

22. **Bar-headed Goose *Anser indicus* (Latham)**

Rare. Two records on the edge of the Kadam Reservoir.

23. **Lesser Whistling-duck*****Dendrocygna javanica* (Horsfield)**

Common and resident. Affects all shallow waterbodies along the southern boundary of the Sanctuary, and has also been recorded from small rainwater inundated pools within the forest. Although no nests were recorded, it probably breeds within the Sanctuary. Ali and Whistler (1934b) report its occurrence in Utnoor. Majumdar (1984) found it to be not very common and collected two females from Birsaiptet.

24. **Large Whistling-duck*****Dendrocygna bicolor* (Vieillot)**

Rare. Recorded once (6 individuals) in November 1998 from Indhanpally Tank.

25. **Brahminy Shelduck *Tadorna ferruginea* (Pallas)**

Uncommon. Migratory. 2 to 6 individuals from Kadam river downstream from Kadam Dam. Majumdar (1984) collected a pair of these birds from Kadam.

26. **Northern Pintail *Anas acuta* Linné**

Common. Migratory. About 15 individuals regularly

recorded affecting large shallow waterbodies along the southern boundary of the Sanctuary.

**27. Common Teal *Anas crecca* Linné**

Common. Migratory. About 10 individuals recorded during winters of 1997 and 1999 in the Indhanpally Tank.

**28. Spot-billed Duck**

***Anas poecilorhyncha* J. R. Forester**

Common. Resident breeder. Over 20 individuals regularly recorded affecting large shallow waterbodies along the southern boundary of the Sanctuary. Regularly recorded breeding in a tank just outside Janaram and also at Indhanpally Tank. Majumdar (1984) found it to be common and collected a male specimen from Kadam.

**29. Gadwall *Anas strepera* Linné**

Rare. Migratory. Recorded once (2 individuals) from the Indhanpally Tank during November 1997.

**30. Eurasian Wigeon *Anas penelope* Linné**

Rare. Migratory. Recorded twice (one and two individuals, respectively) from the Indhanpally Tank during November 1997.

**31. Garganey *Anas querquedula* Linné**

Common. Migratory. Over 20 individuals regularly recorded affecting the large shallow waterbodies along the southern boundary of the Sanctuary and also between Rampur and Uttoor. Ali and Whistler (1934b) recorded this species from Uttoor. Majumdar (1984) reported it to be very common near Birsaipeet where he collected two male and three female specimens.

**32. Northern Shoveller *Anas clypeata* Linné**

Uncommon. Migratory. Recorded throughout the winter of 1998-99 ranging from 3-18 individuals at Indhanpally Tank. Sálím Ali mentions having observed it on 15.x.1924 at Uttoor (Ali and Whistler 1934b).

**33. Red-crested Pochard**

***Rhodonessa rufina* (Pallas)**

Uncommon. Migratory. Recorded throughout the winter of 1997-98 and 1998-99, ranging from 2-6 individuals at Indhanpally Tank.

**34. Common Pochard *Aythya ferina* (Linné)**

Rare. Migratory. Recorded once (a pair) in December 1998 at Indhanpally Tank.

**35. Ferruginous Pochard**

***Aythya nyroca* (Güldenstädt)**

Rare. Migratory. Recorded once (a pair) in November 1998 at Indhanpally Tank.

**36. Tufted Pochard *Aythya fuligula* (Linné)**

Rare. Migratory. Recorded once (5 individuals) in December 1998 at Indhanpally Tank.

**37. Cotton Teal *Nettapus coromandelianus* (Gmelin)**

Common. Local migrant. Observed (at least a pair) in all large shallow waterbodies of the Sanctuary. Maximum number recorded at any given time were 27 individuals. Ali and Whistler (1934b) recorded this species from Uttoor.

**38. Comb Duck *Sarkidiornis melanotos* (Pennant)**

Uncommon. Local migrant. Regularly recorded from 2 to 28 individuals in all the study years at Indhanpally Tank. Ali and Whistler (1934b) recorded this species from Uttoor.

**39. Black-shouldered Kite**

***Elanus caeruleus* (Desfontaines)**

Common. Resident breeder. Affects open patches of the forest and also along the agricultural lands of the fringe villages. Majumdar (1984) found it to be very common and collected a male, a female and two female specimens from Kadam, Itikyál, and Birsaipeet respectively.

**40. Jerdon's Baza *Aviceda jerdoni* (Blyth)**

Rare. Once sighted near Alinagar enclosure in the core area of the Sanctuary.

**41. Oriental Honey-buzzard**

***Pernis ptilorhynchus* (Temminck)**

Uncommon. Affects open forest patches. Number of sightings less in summer and monsoon than in winter when it was frequently observed. No records of breeding within the Sanctuary.

**42. Black Kite *Milvus migrans* (Boddaert)**

Common. Resident breeder. Recorded in good numbers, and nests were recorded in the vicinity of human settlements.

**43. Brahminy Kite *Haliastur indus* (Boddaert)**

Common. Resident breeder. Restricted in distribution to Kadam Reservoir area. Occasionally also recorded along the canal and natural streams criss-crossing the Sanctuary. Nests were observed near the Reservoir area and young were recorded from July-August onwards. Ali and Whistler (1934b) recorded this species from Uttoor.

44. **Shikra *Accipiter badius* (Gmelin)**

Common. Resident breeder. Affects open wooded areas of the Sanctuary. Ali and Whistler (1934b) recorded this species from Utnoor. Majumdar (1984) found it to be common in certain areas and collected a male specimen from Itikyal, and a pair from Kadam.

45. **Crested Goshawk*****Accipiter trivirgatus* (Temminck)**

Rare. Twice sighted in teak mixed bamboo forest near Rampur during winter of 1998.

46. **Besra Sparrow-hawk*****Accipiter virgatus* (Temminck)**

Rare. One bird sighted near Kalleda in November 1998.

47. **Long-legged Buzzard*****Buteo rufinus* (Cretzschmar)**

Rare. One bird sighted in December 1997 near the teak plantation area adjacent to Laxmipur enclosure.

48. **White-eyed Buzzard*****Butastur teesa* (Franklin)**

Rare. Once sighted in February 1999 near Nalakonda, Shivar Pedda Vagu area. Ali and Whistler (1934b) recorded this species from Utnoor. Majumdar (1984) found it to be common near Itikyal and collected 3 male specimens from the same area.

49. **Changeable Hawk-eagle*****Spizaetus cirrhatus* (Gmelin)**

Common. Frequently seen along the gaps created by roads criss-crossing the Sanctuary. Although no nests were sighted it presumably breeds within the Sanctuary, as it is seen all year round. Majumdar (1984) found it to be common near Birsaipet, where he collected a female specimen.

50. **Tawny Eagle *Aquila rapax* Temminck**

Common. Seen in good numbers throughout the Sanctuary. No breeding was recorded.

51. **Greater Spotted Eagle *Aquila clanga* Pallas**

Rare. Once sighted near the southern edge of the Kadam Reservoir in January 1999.

52. **Lesser Spotted Eagle *Aquila pomarina* Brehm**

Rare. Two sightings, first near northern edge of the Dam on the Kadam Reservoir in November 1998, and another along the main canal of Kadam Reservoir in January 1999.

53. **Black Eagle *Ictinaetus malayensis* (Temminck)**

Rare. Once sighted near Kalleda Vagu (Pedda Vagu) in May 1998.

54. **Red-headed Vulture *Sarcogyps calvus* (Scopoli)**

Rare. Six individuals sighted feeding on carcass of cow along with other vulture species on the edge of Kadam Reservoir in January 1998.

55. **Eurasian Griffon *Gyps fulvus* (Hablizl)**

Uncommon. Twenty-one individuals have been recorded in 3 sightings on the edges of Kadam Reservoir. Ali and Whistler (1934b) recorded this species from Utnoor.

56. **Long-billed Vulture *Gyps indicus* (Scopoli)**

Uncommon. Thirty-eight individuals have been recorded in 3 sightings on the edge of Kadam Reservoir and one near Tadlapet. Ali and Whistler (1934b) recorded this species from Utnoor.

57. **Indian White-backed Vulture *Gyps bengalensis* (Gmelin)**

Uncommon. Not frequently seen, probable resident. Thirty-two to forty birds have been recorded in a total of seven sightings all along the fringes of the Sanctuary. No sightings since August 1999. Ali and Whistler (1934b) recorded this species from Utnoor.

58. **Egyptian Vulture*****Neophron percnopterus* (Linné)**

Uncommon. A pair was frequently seen near Kadam Reservoir area till August 1999.

59. **Pallid Harrier*****Circus macrourus* (S. G. Gmelin)**

Uncommon. Regularly seen affecting open forests and agriculture fields.

60. **Montagu's Harrier *Circus pygargus* (Linné)**

Rare. Pair seen in January 1999, near a check-dam near Udhumpur.

61. **Pied Harrier *Circus melanoleucos* (Pennant)**

Uncommon. Regularly seen along agriculture fields downstream of Kadam Dam and twice sighted in the open valley near Rampur.

62. **Western Marsh-harrier*****Circus aeruginosus* (Linné)**

Rare. Recorded twice in the agriculture fields downstream of the Kadam Dam during the winter of 1998-99.

**63. Short-toed Snake-eagle*****Circaetus gallicus* (Gmelin)**

Common. Regularly seen affecting open forests and also cultivated fields. Probably a breeder, though no nests were recorded.

**64. Crested Serpent-eagle*****Spilornis cheela* (Latham)**

Common. Seen in fairly good numbers affecting teak plantations and natural teak mixed miscellaneous forests. Although no nests were recorded, it probably breeds within the Sanctuary. Majumdar (1984) reported it to be widely distributed and collected a female specimen from Birsaipet.

**65. Osprey *Pandion haliaetus* (Linné)**

Rare. Recorded twice (December 1997 and February 1998) fishing on the Kadam Reservoir.

**66. Laggar *Falco jugger* J. E. Gray**

Rare. Once sighted near the village enclosure of Laxmipur.

**67. Peregrine Falcon *Falco peregrinus* Tunstall**

Rare. Three records during winter in the vicinity of Kadam Reservoir.

**68. Red-headed Falcon *Falco chicquera* Daudin**

Common. Regularly seen affecting open forests and cultivated fields, especially along the village enclosures between Indhanpally and Kadam on the southern boundary, and Birsaipet and Uttoor on the northern side of the Sanctuary. Breeding not recorded.

**69. Common Kestrel *Falco tinnunculus* Linné**

Common. Regularly seen affecting open forests, teak plantations and village enclosures within the Sanctuary. Majumdar (1984) reported it to be rare and collected a female specimen from Itikyál.

**70. Painted Francolin*****Fracolinus pictus* (Jardine & Selby)**

Common. Resident breeder. Recorded along the scrub and forest edge mainly near Birsaipet, Kalleda and Itikyál. Ali and Whistler (1934b) recorded this species from Uttoor.

**71. Grey Francolin*****Fracolinus pondicerianus* (Gmelin)**

Common. Resident breeder. Recorded along the scrub, agriculture fields and forest edge throughout the Sanctuary. Ali and Whistler (1934b) reported this species to be absent from Uttoor.

**72. Common Quail *Coturnix coturnix* (Linné)**

Common. Resident breeder. Recorded along the scrub, agriculture fields and forest edge throughout the Sanctuary.

**73. Rain Quail *Coturnix coromandelica* (Gmelin)**

Common. Resident breeder. Recorded to affect scrub, fallow and cultivated fields, and forest edge especially along the human settlements throughout the Sanctuary. Ali and Whistler (1934b) recorded this species from Uttoor.

**74. Blue-breasted Quail *Coturnix chiuensis* (Linné)**

Uncommon. Resident breeder. Recorded in small numbers affecting fallow and scrubland throughout the fringe areas of the Sanctuary.

**75. Jungle Bush-quail *Perdica asiatica* (Latham)**

Common. Resident breeder. Recorded in good numbers along the open scrub, agriculture fields and in the rocky habitat in the vicinity of village enclosures. Sálím Ali collected a couple of male specimens from Uttoor (Ali and Whistler 1934b). Majumdar (1984) collected a male specimen from Itikyál.

**76. Rock Bush-quail *Perdica argoondah* (Sykes)**

Uncommon. Resident breeder. Recorded in small numbers along the northern areas of the Sanctuary.

**77. Red Spurfowl *Galloperdix spadicea* (Gmelin)**

Common. Resident breeder. Females on nests were observed in teak mixed bamboo forest patches between January and March. Fairly well represented throughout the Sanctuary. Ali and Whistler (1934b) recorded this species from Uttoor.

**78. Painted Spurfowl*****Galloperdix lunulata* (Valenciennes)**

Uncommon. Resident breeder. Frequently met with in teak mixed miscellaneous and teak mixed bamboo forest patches within the Sanctuary.

**79. Red Junglefowl *Gallus gallus* (Linné)**

Uncommon. Resident breeder. A few individuals noted in teak mixed miscellaneous forests near Dongapally, Rampur and Alampally areas.

**80. Grey Junglefowl*****Gallus sonneratii* (Temminck)**

Common. Resident breeder. Found in good numbers throughout the undisturbed or less disturbed areas of the Sanctuary. Ali and Whistler (1934b) recorded this species from Uttoor.

**81. Indian Peafowl *Pavo cristatus* Linné**

Common. Resident breeder. Fairly good numbers throughout the Sanctuary. Ali and Whistler (1934b) recorded this species from Utnoor.

**82. Small Buttonquail *Turnix sylvatica* (Desfontaines)**

Rare. Twice sighted between Birsaipet and Utnoor. Probably a resident breeder.

**83. Yellow-legged Buttonquail *Turnix tanki* Blyth**

Uncommon. Occasional sightings along agriculture fields and scrub openings. It probably breeds within the Sanctuary.

**84. Common Buttonquail *Turnix suscitator* (Gmelin)**

Uncommon. Occasionally sighted in a few localities between Rampur and Utnoor, and between Indhanpally and Kadam. It probably breeds within the Sanctuary. Majumdar (1984) reported it to be not very common and collected a female specimen from Birsaipet.

**85. Spotted Crake *Porzana fusca* (Linné)**

Rare. Once sighted near Kadam Reservoir. Probably a straggler or has been overlooked due to its secretive nature.

**86. White-breasted Waterhen*****Anaaurornis phoenicurus* (Pennant)**

Common. Resident breeder. Affects stream beds, canals, shallow waterbodies, and the vicinity of the Kadam Reservoir.

**87. Watercock *Gallixrex cinerea* (Gmelin)**

Common. Resident breeder but recorded in small numbers. Observed from Kadam Reservoir and its adjoining area, from all shallow waterbodies scattered along the southern boundary, and from a seasonal stream between Birsaipet and Utnoor.

**88. Common Moorhen *Gallinula chloropus* (Linné)**

Common. Resident breeder. Recorded in moderate numbers all through the year in large shallow waterbodies along the southern boundary. Numbers increase during the winter season. Ali and Whistler (1934b) recorded this species from Utnoor.

**89. Purple Moorhen *Porphyrio porphyrio* (Linné)**

Common. Resident breeder. Fewer in number than the Common Moorhen. Recorded from all shallow waterbodies scattered along the southern boundary. Numbers increase during the winter season. Ali and Whistler (1934b) reported this species as not uncommon in Utnoor.

**90. Common Coot *Fulica atra* Linné**

Common. Resident breeder. A few individuals have been recorded throughout the year from large shallow waterbodies and Kadam Reservoir. Populations increase considerably during winter. Majumdar (1984) found it to be common and collected a male specimen from Birsaipet.

**91. Pheasant-tailed Jacana*****Hydrophasianus chirurgus* (Scopoli)**

Uncommon within the Sanctuary limits, but a common resident breeder recorded in good numbers from the smaller shallow waterbodies scattered between Indhanpally and Kadam. Ali and Whistler (1934b) recorded this species from Utnoor.

**92. Bronze-winged Jacana*****Metopidius indicus* (Latham)**

More common than the Pheasant-tailed Jacana. Resident breeder, very frequently seen on all the waterbodies within the Sanctuary. Ali and Whistler (1934b) recorded this species from Utnoor.

**93. Greater Painted-snipe*****Rostratula benghalensis* (Linné)**

Rare. A single male was observed in February 1998 near Indhanpally tank. Ali and Whistler (1934b) recorded this species from Utnoor.

**94. Red-wattled Lapwing*****Vanellus indicus* (Boddaert)**

Common. Resident breeder. Frequently observed in scrub forest areas and adjacent village enclosures. Ali and Whistler (1934b) recorded this species from Utnoor. Majumdar (1984) found it to be very common and collected a female specimen from Itikyal.

**95. River Lapwing *Vanellus duvaucelii* (Lesson)**

Uncommon. Frequently observed along Kadam and its network of canals.

**96. Yellow-wattled Lapwing*****Vanellus malabaricus* (Boddaert)**

Common. Resident breeder. Affects open scrub forest and adjacent village enclosures. Ali and Whistler (1934b) recorded this species from Utnoor.

**97. Pacific Golden Plover*****Pluvialis fulva* (Gmelin)**

Rare. Once sighted (6 individuals) downstream of the Kadam Dam in December 1998. Probably stragglers. Ali and Whistler (1934b) reported it to be absent from Utnoor.



**98. Greater Sand Plover*****Charadrius leschenaultii* Lesson**

Rare. Once seen in November 1998 near Indhanpally Tank. Probably a straggler.

**99. Little Ringed Plover *Charadrius dubius* Scopoli**

Common. Winter migrant. Recorded from all the waterbodies within the Sanctuary, more common along the Kadam and associated canals. Majumdar (1984) reported it to be not very common and collected a female specimen from Itikyál.

**100. Kentish Plover *Charadrius alexandrinus* Linné**

Uncommon. Winter migrant. Infrequently recorded from large shallow waterbodies along the southern boundary of the Sanctuary. Majumdar (1984) collected a pair from Kadam.

**101. Eurasian Curlew *Numenius arquata* (Linné)**

Rare. One pair sighted in flight near Kadam Reservoir in December 1998. Probably stragglers.

**102. Black-tailed Godwit *Limosa limosa* (Linné)**

Rare. Two individuals sighted near paddy fields near the Kadam Reservoir in November 1998. No sightings within the Sanctuary limits.

**103. Common Redshank *Tringa totanus* (Linné)**

Common. Winter migrant. Seen along all larger shallow waterbodies within the Sanctuary.

**104. Marsh Sandpiper*****Tringa stagnatilis* (Bechstein)**

Common. Winter migrant. Seen along larger shallow waterbodies near Tadlapet, Indhanpally to Kadam, and Utnoor.

**105. Common Greenshank*****Tringa nebularia* (Gunner)**

Uncommon. Winter migrant. Seen in small numbers along shallow waterbodies between Kadam and Indhanpally. Majumdar (1984) collected one female specimen each from Itikyál and Birsáipet.

**106. Wood Sandpiper *Tringa glareola* Linné**

Common. Winter migrant. Seen along large shallow waterbodies between Kadam and Indhanpally. Ali and Whistler (1934b) recorded this species from Utnoor and its adjoining area.

**107. Common Sandpiper *Actitis hypoleucos* Linné**

Common. Winter migrant. Seen in fairly good numbers affecting all waterbodies within the Sanctuary.

**108. Common Snipe *Gallinago gallinago* (Linné)**

Uncommon. Winter migrant. Frequently observed in small numbers at Indhanpally Tank and Kadam Reservoir. Sálím Ali reports flushing a pair on April 8, 1932 among reeds bordering a tank at Utnoor (Ali and Whistler 1934b).

**109. Little Stint *Calidris minuta* (Leisler)**

Common. Regularly seen in fairly good numbers affecting large waterbodies within the Sanctuary. Along smaller waterbodies up to 12 individuals were observed.

**110. Temminck's Stint *Calidris temminckii* (Leisler)**

Common. Regularly seen in mixed flocks with little stint. Confined to large waterbodies. Very few individuals were sighted along smaller waterbodies.

**111. Black-winged Stilt*****Himantopus himantopus* (Linné)**

Common. Winter migrant. Regularly recorded in flocks up to 76 individuals affecting large shallow waterbodies and paddy fields between Janaram and Kadam, and also in the vicinity of Utnoor. Ali and Whistler (1934b) did not record this species from Utnoor.

**112. Stone Curlew *Burhivus oediconemus* (Linné)**

Uncommon. Resident breeder. Affects open scrub strewn with boulders. Young ones were observed between March and May.

**113. Great Stone-plover*****Esacus recurvirostris* (Cuvier)**

Uncommon. One pair regularly noted along the Kadam river downstream of the Kadam Dam. Possibly breeds within the Sanctuary. Ali and Whistler (1934b) recorded this species from Utnoor and its environs.

**114. Indian Courser*****Cursorius coromandelicus* (Gmelin)**

Uncommon. Regularly seen in small flocks up to six individuals affecting scrub areas of the Sanctuary.

**115. Small Pratincole*****Glareola lactea* (Temminck)**

Rare. Twice recorded in flocks of 8 and 11 individuals in November 1998. Majumdar (1984) collected a pair of specimens from Kadam.

**116. Brown-headed Gull*****Larus brunnicephalus* Jerdon**

Rare. Thrice sighted between October and December 1998 near Kadam Reservoir.

117. **Whiskered Tern** *Chlidonias hybridus* (Pallas)  
Uncommon. One to six individuals regularly sighted near Kadam Reservoir.
118. **River Tern** *Sterna aurantia* J.E. Gray  
Common. Regularly sighted near Kadam Reservoir and all along the major canals in the Sanctuary.
119. **Little Tern** *Sterna albifrons* Pallas  
Rare. Once sighted in March 1998 near Kadam Reservoir. Identified by its small size, black cap and orange bill.
120. **Chestnut-bellied Sandgrouse**  
*Pterocles exustus* Temminck  
Uncommon. A few individuals regularly sighted along the cultivated or fallow tracts of village enclosures within the Sanctuary. Probably a breeder within the Sanctuary.
121. **Painted Sandgrouse** *Pterocles indicus* (Gmelin)  
Rare. Twice sighted in flight, identified by the lack of pin feathers. Ali and Whistler (1934b) recorded this species from Utnoor. Majumdar (1984) found it to be not very common and collected a pair from Itikyal.
122. **Orange-breasted Green-pigeon**  
*Treron bicincta* (Jerdon)  
Uncommon. Resident breeder. Regularly seen in small flocks affecting teak mixed miscellaneous forest and teak mixed bamboo forest patches between Rampur and Birsaijet. Majumdar (1984) reported it to be very common and collected two male specimens from Birsaijet.
123. **Yellow-legged Green-pigeon**  
*Treron phoenicoptera* (Latham)  
Uncommon. Resident breeder. Regularly seen in small flocks of 2 to 8 individuals affecting teak mixed miscellaneous forest patches. Majumdar (1984) found it to be common and collected a male and three female specimens from Kadam, and a female specimen from Birsaijet.
124. **Green Imperial-pigeon** *Ducula aenea* (Linné)  
Uncommon. Resident breeder. Regularly seen in small flocks of 2 to 6 individuals all along the thick, forested tracts.
125. **Blue Rock Pigeon** *Columba livia* Gmelin  
Common. Resident breeder. Regularly seen around villages and fallow fields. Nests observed in towns.
126. **Eurasian Collared-dove**  
*Streptopelia decaocto* (Frivaldszky)  
Common. Resident breeder. Ubiquitous in villages, cultivated and fallow fields. Ali and Whistler (1934b) recorded this species from Utnoor. Majumdar (1984) found it to be very common and collected a pair of specimens from Itikyal.
127. **Red Collared-dove**  
*Streptopelia tranquebarica* (Hermann)  
Common. Resident breeder. Regularly seen around villages and fallow fields. Sálím Ali reports sighting of this species from Nirmal in 1925 (Ali and Whistler 1934b).
128. **Spotted Dove** *Streptopelia chinensis* (Scopoli)  
Common. Resident breeder. Regularly seen affecting cultivated or fallow fields, and around village enclosures. Ali and Whistler (1934b) recorded this species from Utnoor. Majumdar (1984) found it to be very common and collected a female specimen from Kadam.
129. **Little Brown Dove**  
*Streptopelia senegalensis* (Linné)  
Common. Resident breeder. Regularly seen near cultivated or fallow fields, open scrub and teak mixed miscellaneous forests. Majumdar (1984) reported it to be very common and collected a female specimen from Kadam.
130. **Alexandrine Parakeet**  
*Psittacula eupatria* (Linné)  
Uncommon. Resident breeder. Regularly observed in large flocks affecting jowar and maize crops especially areas between Rampur and Utnoor. Ali and Whistler (1934a) recorded this species from Utnoor. Majumdar (1984) found it to be common and collected a female specimen from Itikyal.
131. **Rose-ringed Parakeet**  
*Psittacula krameri* (Scopoli)  
Common. Resident breeder. Regularly seen in large flocks affecting jowar, bajra and maize crops grown in cultivated tracts of village enclosures. Up to 10,000 individuals roost in 5 ha teak plantation near Dosthnagar. Ali and Whistler (1934a) recorded this species from Utnoor. Majumdar (1984) found it to be common and collected two pairs of specimens from Itikyal.
132. **Plum-headed Parakeet**  
*Psittacula cyanocephala* (Linné)  
Uncommon. Resident breeder. Frequently sighted in good numbers affecting maize, jowar and bajra fields

between Birsai pet and Utnoor, and near Tadlapet. Sálím Ali collected a male specimen from Utnoor environs (Ali and Whistler 1934a). Majumdar (1984) found it to be very common and collected three male and five female specimens from Itikyál, and two male specimens from Kadam.

133. **Pied Crested Cuckoo**  
*Clamator jacobinus* (Boddaert)

Common. Resident; although not noted, probably a breeder. Regularly seen throughout the year with augmentation in numbers between late May to October.

134. **Brainfever Bird** *Hierococcyx varius* (Vahl)

Common. Resident breeder. Seen throughout the year. One pair observed copulating in early March 1999. Probably a brood parasite on *Turdoides* sp. nests. Ali and Whistler (1934a) recorded this species from Utnoor. Majumdar (1984) collected one and two specimens (all male) from Birsai pet and Itikyál respectively.

135. **Common Cuckoo** *Cuculus canorus* Linné

Rare. Occasionally heard, but never sighted in summer.

136. **Indian Plaintive Cuckoo**  
*Cacomantis passerinus* (Vahl)

Uncommon. Resident, breeding not observed. Regularly seen in teak mixed miscellaneous forests.

137. **Drongo Cuckoo** *Surniculus lugubris* (Horsfield)

Rare. A single record from Kalleda Teak Plantation area in November 1998.

138. **Asian Koel** *Eudynamis scolopacea* (Linné)

Common. Resident breeder. Seen year-round throughout the Sanctuary, call more vociferous during the monsoon. Ali and Whistler (1934a) recorded this species from Utnoor.

139. **Small Green-billed Malkoha**  
*Phaenicophaeus viridirostris* (Jerdon)

Common. Resident breeder. Frequently sighted affecting mixed miscellaneous forest patches.

140. **Sirkeer Cuckoo**  
*Phaenicophaeus leschenaultii* Lesson

Uncommon. Resident breeder. Seen along the forest edges. Courtship observed between April and May. Ali and Whistler (1934a) recorded this species from Utnoor.

141. **Great Coucal** *Centropus sinensis* (Stephens)

Common. Resident breeder. Seen throughout the

Sanctuary. Mating pairs were observed from August to September. Ali and Whistler (1934a) collected a male specimen from Utnoor.

142. **Barn Owl** *Tyto alba* (Scopoli)

Uncommon. Resident breeder. Infrequently seen in open patches around village enclosures. Sálím Ali reported sighting of this species at Talamadri village on October 14, 1925 (Ali and Whistler 1934a).

143. **Collared Scops-owl** *Otus bakkamoena* Pennant

Common. Resident breeder. Affecting both natural teak mixed miscellaneous forest and teak plantation areas. Ali and Whistler (1934a) did not record this species from Utnoor.

144. **Eurasian Eagle-owl** *Bubo bubo* (Linné)

Uncommon. Resident breeder. Frequently seen along rocky outcrops within the Sanctuary. Majumdar (1984) found it to be uncommon and collected a male specimen from Itikyál.

145. **Brown Fish-owl** *Ketupa zeylonensis* (Temminck)

Uncommon. Resident breeder. Regularly seen along well-wooded forest patches. Near Kadam Reservoir and associated canals. One nest was observed in a cavity of *Samanea saman* on the outskirts of Kadam village.

146. **Jungle Owlet** *Glaucidium radiatum* (Tickell)

Common. Resident breeder. Affects teak mixed miscellaneous forest patches and teak plantation areas. Sálím Ali collected an unsexed specimen from Utnoor (Ali and Whistler 1934a).

147. **Spotted Owlet** *Athene brama* (Temminck)

Common. Resident breeder. Frequently seen and heard in villages and scrub areas. Ali and Whistler (1934a) recorded this species from Utnoor. Majumdar (1984) found it to be very common and collected one female from Itikyál and two females from Kadam.

148. **Mottled Wood-owl** *Strix ocellata* (Lesson)

Uncommon. Resident breeder. Frequently seen in villages and scrub areas.

149. **Short-eared Owl** *Asio flammeus* (Pontoppidan)

Rare. Once recorded near Laxminagar hamlet in January 1999.

150. **Indian Jungle Nightjar**  
*Caprimulgus indicus* Latham

Common. Resident breeder. Regularly seen throughout the Sanctuary.

151. **Common Indian Nightjar**  
*Caprimulgus asiaticus* Latham

Common. Resident breeder. Frequently seen at night feeding over roads criss-crossing the Sanctuary. Majumdar (1984) found it to be very common and collected three males and one female from Itikyal, and a female from Birsaipet.

152. **Franklin's Nightjar**  
*Caprimulgus affinis* Horsfield

Uncommon. Very few sightings within the Sanctuary. Probably breeds within the Sanctuary. Sálím Ali collected a pair of specimens from Utnoor (Ali and Whistler 1934a).

153. **Alpine Swift** *Tachymarptis melba* (Linné)

Uncommon. Winter migrant. Flocks regularly seen from September to January.

154. **House Swift** *Apus affinis* (J.E. Gray)

Common. Resident breeder. Seen throughout the year, a large breeding colony recorded under the bridge across Kadam river below the Kadam Dam. Majumdar (1984) reported it to be very common and collected two males and three females from Itikyal, and one female from Kadam.

155. **Asian Palm-swift**  
*Cypsiurus balasiensis* (J.E. Gray)

Common. Not a resident within the Sanctuary, but affects the villages on the fringes between Tadlapet and Tapalapur, Janaram and Indhanpally, and in the vicinity of Utnoor. Young ones noted from March to April, but no nests were located. Sálím Ali collected a male and a juvenile (unsexed) specimen from Utnoor (Ali and Whistler 1934a). Majumdar (1984) found it to be common and collected a male specimen from Kadam.

156. **Crested Tree-swift**  
*Hemiprocne coronata* (Tickell)

Uncommon. Resident breeder. Seen frequenting open patches in teak mixed miscellaneous forest. Sálím Ali collected a pair of specimens from Utnoor (Ali and Whistler 1934a).

157. **Lesser Pied Kingfisher** *Ceryle rudis* (Linné)

Common. Resident breeder. Seen throughout the year along large and small waterbodies and paddy fields. Majumdar (1984) reported it to be not common, and collected a female specimen from Itikyal.

158. **Small Blue Kingfisher** *Alcedo atthis* (Linné)

Common. Resident breeder. Seen along the waterbodies and paddy fields throughout the Sanctuary.

Sálím Ali collected a female specimen from Utnoor (Ali and Whistler 1934a.). Majumdar (1984) found it to be very common and collected two female specimens from Birsaipet.

159. **White-breasted Kingfisher**  
*Halcyon smyrnensis* (Linné)

Common. Resident breeder. Seen throughout the Sanctuary. Majumdar (1984) found it to be very common and collected a male specimen from Itikyal.

160. **Chestnut-headed Bee-eater**  
*Merops leschenaulti* Vieillot

Uncommon. Resident with local movements, breeding not recorded. Seen throughout the year in small numbers near Kadam Reservoir. Augmentation in numbers noted from September to December indicating seasonal local movements.

161. **Blue-tailed Bee-eater**  
*Merops philippinus* Linné

Uncommon. Resident with local movements, breeding not recorded. Frequently seen near Kadam Reservoir and also along the associated canal network.

162. **Small Bee-eater** *Merops orientalis* Latham

Common. Resident breeder. Affects cultivated and scrub tracts of the Sanctuary and is regularly seen along teak mixed miscellaneous forest especially along forest streams. Sálím Ali collected a male specimen from Utnoor (Ali and Whistler 1934a). Majumdar (1984) reported it to be very common and collected five male and two female specimens from Itikyal.

163. **Indian Roller** *Coracias benghalensis* (Linné)

Common. Resident breeder. Seen throughout the Sanctuary, more common along cultivated and scrub tracts. Nests observed in tree hollows. Ali and Whistler (1934a) reported this species to be abundant in the leafless deciduous forest in Utnoor. Majumdar (1984) found it to be common and collected a male specimen from Itikyal.

164. **Hoopoe** *Upupa epops* Linné

Common. Resident breeder. Although no nests were recorded, individuals carrying nesting material were observed. Seen throughout the Sanctuary, but more common along cultivated tracts and patches of teak plantation. Majumdar (1984) reported it to be not common, and collected a male specimen from Itikyal and a female specimen from Kadam.

**165. Indian Grey Hornbill*****Ocyroceros birostris* (Scopoli)**

Common. Resident with probable breeding status. Recorded in pairs affecting mixed miscellaneous forested tracts near village enclosures. No nests were sighted during the study period. Ali and Whistler (1934a) recorded this species from Uttoor. Majumdar (1984) found it to be common and collected one male specimen from Itikyal, and a pair from Kadam.

**166. Brown-headed Barbet*****Megalaima zeylanica* (Gmelin)**

Uncommon. Resident, breeding not recorded. Occasionally sighted along the forested tracts adjacent to cultivated fields and also in teak mixed miscellaneous forest patches.

**167. Coppersmith Barbet*****Megalaima haemacephala* (P.L.S. Müller)**

Common. Resident breeder. Seen in all types of forest patches within the Sanctuary.

**168. Eurasian Wryneck *Jynx torquilla* Linné**

Uncommon. Winter migrant. Occasionally recorded from open scrub and teak mixed miscellaneous forest tracts from October to December.

**169. Rufous Woodpecker*****Celeus brachyurus* (Vieillot)**

Uncommon. Resident breeder. Observed affecting teak plantations, Teak Mixed Bamboo Forests and teak mixed miscellaneous forest patches. Fewer in numbers than other resident woodpecker species.

**170. Little Scaly-bellied Green Woodpecker*****Picus xanthopygaeus* (J.E. Gray & G.R. Gray)**

Rare. Resident and probably a breeder within the Sanctuary; although no nests were noted. Usually seen singly affecting teak mixed miscellaneous forest and teak plantation patches between Rampur and Birsaipeet. Majumdar (1984) reported it to be not very common and collected a female specimen from Birsaipeet.

**171. Lesser Golden-backed Woodpecker*****Dinopium benghalense* (Linné)**

Common. Resident breeder. Seen almost throughout the Sanctuary. Majumdar (1984) reported it to be very common and collected one male and two female specimens from Itikyal, a male from Kadam, and a female from Birsaipeet.

**172. Great Black Woodpecker*****Dryocopus javensis* (Horsfield)**

Rare. Probably a resident breeder. First recorded by the author in teak mixed miscellaneous forest near Rampur in February 1997, subsequently a few more individuals were sighted (Srinivasulu *et al.* 2001). It has been reported to be common from Surat Dangs to Western Ghats and Hills of Tamil Nadu (Ali and Ripley 1987). Occasional sightings, from Bastar (Ali 1951) and Udanti (Bharos 1992), Central India and Jyothimamidi in Vishakapatnam district, Eastern Ghats (Ripley *et al.* 1987), indicate that small populations exist sporadically between the Eastern Ghats and the Satpura Hills.

**173. Yellow-fronted Pied Woodpecker*****Dendrocopos mahrattensis* (Latham)**

Uncommon. Resident breeder. Always seen in pairs throughout the Sanctuary. Majumdar (1984) found it to be common and collected a pair of specimens from Itikyal.

**174. Brown-capped Pygmy Woodpecker*****Dendrocopos nanus* (Vigors)**

Uncommon. Resident breeder. Always seen in pairs in almost all the forest types within the Sanctuary. Sálím Ali reports sighting of a juvenile just out of nest being fed by its parents between Ichoda and Uttoor on March 31, 1932 (Ali and Whistler 1934a). Majumdar (1984) found it to be common and collected a pair of specimens from Birsaipeet.

**175. Black-shouldered Woodpecker*****Chrysocolaptes festivus* (Boddaert)**

Rare. Probably a resident breeder. Occasionally sighted in pairs or singly in teak mixed miscellaneous forest and teak plantation patches near Kadam, Udhumpur, Rampur, Birsaipeet and Kalleda. Majumdar (1984) reported it to be rare and collected a female specimen from Kadam.

**176. Indian Pitta *Pitta brachyura* (Linné)**

Rare. Sighted thrice from November to January in 1997 and 1998.

**177. Singing Bush-lark *Mirafra cantillans* Blyth**

Uncommon. Probably a resident breeder. Occasionally sighted affecting fallow and open scrub areas of the Sanctuary.

**178. Jerdon's Bush-lark *Mirafra affinis* Blyth**

Uncommon. Probably a resident breeder. Regularly observed near cultivated and fallow fields, and open scrub patches of the Sanctuary.

179. **Red-winged Bush-lark***Mirafra erythroptera* Blyth

Common. Resident breeder. Frequently sighted affecting fallow and cultivated fields, and open scrub patches of the Sanctuary.

180. **Ashy-crowned Finch-lark***Eremopterix grisea* (Scopoli)

Common. Resident breeder. Frequently sighted in pairs and small parties affecting fallow fields and open scrub areas of the Sanctuary. Majumdar (1984) reported it to be very common and collected a pair of specimens from Itikyál.

181. **Rufous-tailed Finch-lark***Ammonomanes phoenicurus* (Franklin)

Common. Resident breeder. Frequently sighted affecting open scrub areas, and fallow and cultivated tracts of the Sanctuary. Ali and Whistler (1933c) recorded this species from Utnoor. Majumdar (1984) reported it to be not uncommon and collected a male specimen from Kadam.

182. **Greater Short-toed Lark***Calandrella brachydactyla* (Leisler)

Common. Resident breeder. Regularly seen along fallow and open scrub patches. Seen in good numbers from November to March.

183. **Sykes's Crested Lark** *Galerida deva* (Sykes)

Common. Resident breeder. Frequently seen near open scrub areas and fallow fields along the village enclosures in the Sanctuary.

184. **Eastern Skylark** *Alanda gulgula* Franklin

Common. Resident breeder. Frequently sighted in the open scrub areas, and fallow and cultivated tracts of the Sanctuary. Numbers swell from October to March, indicating local movements.

185. **Dusky Crag-martin** *Hirundo coucolor* Sykes

Uncommon. Probably a resident breeder. Seen regularly near Kadam Reservoir.

186. **Common Swallow** *Hirundo rustica* Linné

Common. Winter migrant. Large congregations observed to affect cultivated tracts within and around the Sanctuary from November to December.

187. **Wire-tailed Swallow** *Hirundo smithii* Leach

Common. Small resident population near Kadam and Itikyál regions. Numbers swell during winter months, indicating local movements. No breeding was noted.

Majumdar (1984) reported it to be rather uncommon and collected a pair of specimens from Birsáipet.

188. **Streak-throated Swallow***Hirundo fluvicola* Blyth

Uncommon. Probably a resident, breeding not recorded. Occasionally sighted near Kadam Reservoir and Kalleda, affects cultivated tracts and village outskirts.

189. **Red-rumped Swallow** *Hirundo danrica* Linné

Common. Resident breeder. Seen in association with House Swift near Kadam, Itikyál, Birsáipet and Utnoor. Numbers swell during winter months indicating local migration. Ali and Whistler (1933c) recorded this species from Utnoor. Majumdar (1984) reported occurrence of two sub species, namely the common *H.d. nipalensis* and the rather uncommon *H.d. erythropterygia*. He collected two male and six female specimens of the former and two male specimens of the latter from Kadam.

190. **Southern Grey Shrike***Lanius meridionalis* Temminck

Uncommon. Resident breeder. Frequently seen along open scrub and in the vicinity of village enclosures. Ali and Whistler (1933b) quoting from Ali's diary of 1925, state that this species was common near Talamadri, but add that it was not met with anywhere within 50 miles of Utnoor between April 1-10, 1932.

191. **Bay-backed Shrike***Lanius vittatus* Valenciennes

Common. Resident breeder. Frequently affects open scrub and fallow fields within the Sanctuary. Ali and Whistler (1933b) recorded this species from Utnoor.

192. **Rufous-backed Shrike** *Lanius schach* Linné

Uncommon. Resident breeder. Frequently seen along open scrub, fallow fields and teak plantations within the Sanctuary. Majumdar (1984) found it to be common and collected one male and four female specimens from Itikyál.

193. **Brown Shrike** *Lanius cristatus* Linné

Uncommon. Winter migrant. Occasionally sighted in fallow fields, open scrub and teak plantations from November to January. Sálím Ali collected a specimen (unsexed) from Utnoor (Ali and Whistler 1933b).

194. **Eurasian Golden Oriole** *Oriolus oriolus* (Linné)

Common. Resident breeder. Frequently seen singly or in pairs in all types of forest within the Sanctuary. Ali

and Whistler (1933b) reported this species to be fairly common in Utnoor. Majumdar (1984) found it to be common and collected a male specimen each from Itikyal and Kadam.

195. **Black-naped Oriole** *Oriolus chinensis* Linné

Rare. Winter migrant. Thrice sighted from December to January within the Sanctuary near Rampur, Birsaipet and Udhumpur.

196. **Black-headed Oriole**

*Oriolus xanthornus* (Linné)

Uncommon. Probably a resident breeder. Sightings very few, but throughout the year. Seen in teak mixed miscellaneous forest and teak mixed bamboo forest patches in the Sanctuary. Ali and Whistler (1933b) reported this species to be fairly common in Utnoor and its environs.

197. **Black Drongo** *Dicrurus macrocercus* Vieillot

Common. Resident breeder. Very frequently seen in all types of forest patches, cultivated, fallow and open scrub areas of the Sanctuary. Ali and Whistler (1933b) reported it to be scarce, adding that Sálím Ali collected a female specimen from Utnoor. Majumdar (1984) reported it to be very common and collected a male specimen each from Itikyal and Kadam.

198. **Ashy Drongo** *Dicrurus leucophaeus* Vieillot

Uncommon. Winter migrant. Very few sighted in teak mixed bamboo forest and teak plantation patches. Seldom seen in scrub areas. Majumdar (1984) reported it to be not very common and collected a male specimen from Birsaipet.

199. **White-bellied Drongo**

*Dicrurus caerulescens* (Linné)

Common. Resident breeder. Regularly sighted in teak mixed miscellaneous forest patches and around village fringes in the core area of the Sanctuary. Sálím Ali collected a female specimen from Utnoor (Ali and Whistler 1933b).

200. **Greater Racket-tailed Drongo**

*Dicrurus paradiseus* (Linné)

Uncommon. Resident, probably breeding. Occasionally sighted in Teak Mixed Bamboo Forest and teak plantation patches of the Sanctuary. Ali and Whistler (1933b) did not record this species from Utnoor.

201. **Ashy Woodswallow** *Artamus fuscus* Vieillot

Common. Resident, no nesting recorded but probably breeds within the Sanctuary. Regularly seen near village fringes and open scrub.

202. **Grey-headed Starling**

*Sturnus malabaricus* (Gmelin)

Uncommon. Resident, probably breeds within the Sanctuary. Affects open scrub near teak plantations. Populations swell during winter months, indicating local migration. Majumdar (1984) reports sighting of this species.

203. **Brahminy Starling**

*Sturnus pagodarum* (Gmelin)

Common. Resident breeder. Seen frequently near cultivation and in open scrub. Sálím Ali collected a male from Utnoor (Ali and Whistler 1933b). Majumdar (1984) found it to be common and collected a male and two females from Itikyal, five males and a female from Kadam, and a female from Birsaipet.

204. **Rosy Starling** *Sturnus roseus* (Linné)

Common. Winter migrant. Regularly seen from August to February in medium to large flocks along cultivation, scrub and teak mixed miscellaneous forest patches.

205. **Common Starling** *Sturnus vulgaris* Linné

Uncommon. Winter migrant. Unlike Rosy Starling, these were sighted only on a few occasions along cultivation and open scrub patches.

206. **Asian Pied Myna** *Sturnus contra* Linné

Common. Resident breeder. Affects cultivation, open scrub, and teak mixed forest patches especially along waterbodies, more common between Birsaipet and Utnoor.

207. **Common Myna** *Acridotheres tristis* (Linné)

Common. Ubiquitous resident breeder. Affects all types of forest patches within the Sanctuary. Ali and Whistler (1933b) recorded this species from Utnoor. Majumdar (1984) reports it to be very common and collected a female specimen from Itikyal.

208. **Jungle Myna** *Acridotheres fuscus* (Wagler)

Uncommon. Probably a resident breeder. Infrequent sightings in teak mixed miscellaneous forest patches in areas of Janaram and Nirmal Forest Division comprising the Sanctuary.

209. **Indian Treepie**

*Dendrocitta vagabunda* (Latham)

Common. Resident breeder. Affects teak mixed miscellaneous forest, teak mixed bamboo forest, teak plantation, scrub patches and near

villages. Majumdar (1984) reported it to be very common and collected two male specimens from Itikyál.

**210. House Crow *Corvus splendens* Vieillot**

Common. Resident breeder. Encountered throughout the Sanctuary.

**211. Jungle Crow *Corvus macrorhynchos* Wagler**

Common. Resident breeder. Although not a match in numbers to the Common Crow, it is frequently seen throughout the Sanctuary.

**212. Common Woodshrike**

***Tephrodornis pondicerianus* (Gmelin)**

Common. Resident breeder. Affects teak plantation, teak mixed miscellaneous forest and teak mixed bamboo forest patches. Ali and Whistler (1933b) recorded this species from areas adjoining Utnoor. Majumdar (1984) found it to be common and collected a male specimen from Itikyál.

**213. Large Cuckoo-shrike *Coracina macei* (Lesson)**

Common. Resident breeder. Frequently seen in teak plantation and teak mixed miscellaneous forest patches of the Sanctuary. Ali and Whistler (1933b) recorded this species from Utnoor.

**214. Black-headed Cuckoo-shrike**

***Coracina melanoptera* Rüppell**

Common. Resident breeder. Affects patches of teak mixed miscellaneous forest and bamboo plantation in the Sanctuary.

**215. Scarlet Minivet**

***Pericrocotus flammeus* (Forster)**

Common. Resident breeder. Affects teak plantation and teak mixed miscellaneous forest in the Sanctuary.

**216. Small Minivet**

***Pericrocotus cinnamomeus* (Linné)**

Common. Resident breeder. Seen regularly in teak plantation and teak mixed miscellaneous forest in the Sanctuary. Ali and Whistler (1933b) recorded this species from Utnoor.

**217. White-bellied Minivet**

***Pericrocotus erythropygius* (Jerdon)**

Uncommon. Probably a resident breeder. Regularly seen in scrub and teak mixed miscellaneous forest in the Sanctuary. Ali and Whistler (1933b) did not record this species from Utnoor.

**218. Common Iora *Aegithina tiphia* (Linné)**

Common. Resident breeder. Affects all types of forest in the Sanctuary. Ali and Whistler (1933a) did not record this species from Utnoor. Majumdar (1984) reports it to be very common and collected a male specimen from Itikyál.

**219. Gold-fronted Chloropsis**

***Chloropsis aurifrons* (Temminck)**

Uncommon. Resident breeder. Regularly seen in all types of forest in the Sanctuary.

**220. Jerdon's Chloropsis**

***Chloropsis cochinchinensis* (Gmelin)**

Common. Resident breeder. Regularly seen in all types of forest in the Sanctuary.

**221. Red-whiskered Bulbul**

***Pycnonotus jocosus* (Linné)**

Rare. Sighted six times near Utnoor and BirsaiPET regions. Ali and Whistler (1933a) reported it to be conspicuously absent from Utnoor.

**222. Red-vented Bulbul *Pycnonotus cafer* (Linné)**

Common. Resident breeder. Regularly seen in all types of forest in the Sanctuary. Majumdar (1984) reported it to be very common and collected three males and five females from Itikyál.

**223. White-browed Bulbul**

***Pycnonotus luteolus* (Lesson)**

Common. Resident breeder. Regularly seen in all types of forest in the Sanctuary.

**224. Spotted Babbler**

***Pellorneum ruficeps* Swainson**

Uncommon. Resident breeder. Occasionally sighted in teak mixed bamboo forest and teak plantation. Ali and Whistler (1933a) did not come across this species from Utnoor.

**225. Rufous-bellied Babbler**

***Dumetia hyperythra* (Franklin)**

Common. Resident breeder. Affects open scrub and teak mixed miscellaneous forest in the Sanctuary. Sálím Ali collected a male from Utnoor (Ali and Whistler 1933a).

**226. Yellow-eyed Babbler**

***Chrysomma sinense* (Gmelin)**

Common. Resident breeder. Affects open scrub, near villages, teak mixed miscellaneous forest and teak plantation within the Sanctuary. Ali and Whistler (1933a)



recorded this species from Utnoor. Majumdar (1984) found it to be common and collected three males and one female from Kadam, and one female from BirsaiPET.

**227. Common Babbler *Turdoides caudatus* (Dumont)**  
Common. Resident breeder. Seen throughout the Sanctuary.

**228. Large Grey Babbler *Turdoides malcolmi* (Sykes)**  
Common. Resident breeder. Affects open scrub, fallow fields and teak mixed miscellaneous forest. Ali and Whistler (1933a) reported it as absent from Utnoor.

**229. Jungle Babbler *Turdoides striatus* (Dumont)**  
Common. Resident breeder. Seen throughout the Sanctuary. Ali and Whistler (1933a) recorded this species from Utnoor. Majumdar (1984) found it to be common and collected two male specimens from Itikyál, a male and six females from Kadam, and a male from BirsaiPET.

**230. White-headed Babbler *Turdoides affinis* (Jerdon)**  
Common. Resident breeder. Seen throughout the Sanctuary, but seems to prefer open scrub, cultivated fields and teak mixed miscellaneous forest over other types of habitat.

**231. Asian Brown Flycatcher *Muscicapa dauurica* Pallas**  
Uncommon. Probably a seasonal local migrant. Frequently encountered during winter in well-wooded tracts of the Sanctuary. Sálim Ali collected two males and one female from Utnoor (Ali and Whistler 1933a).

**232. Brown-breasted Flycatcher *Muscicapa muttui* (Layard)**  
Rare. Probably a straggler. A total of eight sightings, all from teak mixed bamboo forest, during the study period. Ali and Whistler (1933a) did not record this species from Utnoor.

**233. Red-throated Flycatcher *Ficedula parva* (Bechstein)**  
Uncommon. Probably a seasonal local migrant. Frequently encountered during winter in well-wooded tracts of the Sanctuary.

**234. Ultramarine Flycatcher *Ficedula superciliaris* Jerdon**  
Uncommon. Winter migrant. Frequently encountered in all types of forest within the Sanctuary.

**235. Tickell's Blue-flycatcher *Cyornis tickelliae* Blyth**  
Common. Resident breeder. Affects well-wooded forested tracts with bamboo and good undergrowth. Ali and Whistler (1933a) recorded this species from Utnoor. Majumdar (1984) reported it to be very common and collected one male and two females from BirsaiPET.

**236. Verditer Flycatcher *Eumyias thalassina* (Swainson)**  
Common. Winter migrant. Frequently seen along well-wooded forested tracts with good undergrowth. Ali and Whistler (1933a) did not record this species from Utnoor. Majumdar (1984) collected a male from BirsaiPET.

**237. Grey-headed Flycatcher *Culicicapa ceylonensis* (Swainson)**  
Uncommon. Probably a resident breeder. Regularly sighted in well-wooded forested tracts with good undergrowth. Ali and Whistler (1933a) did not record this species from Utnoor.

**238. White-browed Fantail-flycatcher *Rhipidura aureola* Lesson**  
Uncommon. Probably a resident breeder. Regularly met with in patches of teak mixed miscellaneous, teak mixed bamboo and teak plantation. Sálim Ali collected a female from Utnoor (Ali and Whistler 1933a). Majumdar (1984) reported it to be rather uncommon and collected a male and two females from BirsaiPET.

**239. White-throated Fantail-flycatcher *Rhipidura albicollis* (Vieillot)**  
Uncommon. Resident breeder. Affects all types of forest patches within the Sanctuary. Sálim Ali collected a male from Utnoor (Ali and Whistler 1933a).

**240. Asian Paradise-flycatcher *Terpsiphone paradisi* (Linné)**  
Common. Resident breeder. Frequently seen throughout the Sanctuary. Sálim Ali collected a pair of specimens from Utnoor (Ali and Whistler 1933a). Majumdar (1984) found it to be common and collected a male and two females from BirsaiPET.

**241. Black-naped Monarch-flycatcher *Hypothymis azurea* (Boddaert)**  
Uncommon. Winter migrant. Frequently met with in well-wooded patches with good bamboo and undergrowth during winter season. Sálim Ali collected an adult male specimen from Utnoor (Ali and

Whistler 1933a). Majumdar (1984) collected a female specimen from Itikyál and two male specimens from Birsáipet.

**242. Streaked Fantail-warbler**

***Cisticola juncidis* (Rafinesque)**

Common. Resident breeder. More commonly found along cultivated and fallow fields and open scrub in the Sanctuary. Sálím Ali collected two male specimens from Utnoor (Ali and Whistler 1933b).

**243. Franklin's Prinia**

***Prinia hodgsonii* Blyth**

Common. Resident breeder. Seen frequently throughout the Sanctuary. Sálím Ali collected a male specimen from Utnoor (Ali and Whistler 1933b).

**244. Rufous-fronted Prinia**

***Prinia buchanani* Blyth**

Uncommon. Probably a resident breeder. Frequently met with in small groups hopping on forest floor near Birsáipet, Utnoor, Kadam and Kalleda. Ali and Whistler (1933b) did not record this species from Utnoor.

**245. Plain Prinia *Prinia inornata* Sykes**

Common. Resident breeder. Affects cultivation and open scrub in nearby villages.

**246. Ashy Prinia *Prinia socialis* Sykes**

Common. Resident breeder. Frequently met with in all types of forest especially near streams, cultivated fields and open scrub. Sálím Ali collected a female specimen from near Utnoor (Ali and Whistler 1933b). Majumdar (1984) reported it to be fairly common and collected a female specimen from Kadam and two male specimens from Birsáipet.

**247. Jungle Prinia *Prinia sylvatica* Jerdon**

Common. Resident breeder. Affects well-wooded and open scrub areas with good undergrowth. Sálím Ali collected a female (?) specimen from Utnoor (Ali and Whistler 1933b).

**248. Common Tailorbird**

***Orthotomus sutorius* (Pennant)**

Common. Resident breeder. Frequently seen throughout the Sanctuary. Ali and Whistler (1933b) reported it to be fairly common near Nirmal. Majumdar (1984) reported it to be fairly common and collected two males and four females from Itikyál, a pair from Birsáipet, and a male from Kadam.

**249. Bristled Grass-warbler**

***Chaetornis striatus* (Jerdon)**

Rare. Once sighted in November 1997 near Kadam Reservoir.

**250. Indian Great Reed Warbler**

***Acrocephalus stentoreus* (Hemprich & Ehrenberg)**

Uncommon. Winter migrant. Infrequently met with near large waterbodies among reeds.

**251. Blyth's Reed-warbler**

***Acrocephalus dumetorum* Blyth**

Common. Winter migrant. Frequently met with throughout the Sanctuary near large waterbodies with reeds. Majumdar (1984) reported it to be rather uncommon and collected a pair of specimens from Itikyál, and three males and a female from Kadam.

**252. Booted Warbler**

***Hippolais caligata* (Lichtenstein)**

Uncommon. Winter migrant. Infrequently seen in open scrub and teak mixed miscellaneous forest throughout the Sanctuary.

**253. Common Lesser Whitethroat**

***Sylvia curruca* (Linné)**

Uncommon. Winter migrant. Frequently seen in open scrub throughout the Sanctuary. Majumdar (1984) reported it to be rather uncommon and collected a male and two females from Itikyál, and a female from Kadam.

**254. Tickell's Warbler**

***Phylloscopus affinis* (Tickell)**

Rare. One record from Rampur in January 1998.

**255. Common Chiffchaff**

***Phylloscopus collybita* (Vieillot)**

Common. Winter migrant. Frequently seen with in shrubs and undergrowth throughout the Sanctuary, up to last week of March.

**256. Greenish Leaf-warbler**

***Phylloscopus trochiloides* (Sundevall)**

Uncommon. Infrequently seen in all types of forest patches within the Sanctuary.

**257. Oriental Magpie-robin**

***Copsychus saularis* (Linné)**

Common. Resident breeder. Seen throughout the Sanctuary. Seasonal fluctuation in their numbers, suggests local movements. Sálím Ali reported sighting of a pair on March 30, 1932 near Nirmal (Ali and Whistler 1933a). Majumdar (1984) reported it to be very

common and collected three pairs from Itikyál, a male each from Kadam and Birsáipet.

**258. White-rumped Shama**

***Copsychus malabaricus* (Scopoli)**

Rare. A total of six sightings throughout the study period.

**259. Black Redstart**

***Phoenicurus ochruros* (Gmelin)**

Rare. A total of 15 sightings during the study period. Ali and Whistler (1933a) recorded this species from Utnoor. Majumdar (1984) reported it to be rather uncommon and collected three males and a female from Itikyál, and a female from Birsáipet.

**260. Common Stonechat *Saxicola torquata* (Linné)**

Common. Winter migrant. Frequently seen in open scrub, fallow fields and teak mixed miscellaneous forest patches. Majumdar (1984) reported it to be fairly common and collected a male from Kadam.

**261. Pied Bushchat *Saxicola caprata* (Linné)**

Uncommon. Probably a resident breeder. Regularly seen throughout the Sanctuary with numbers increasing during winter with the influx of the northern, migrant race *S.c. bicolor*. Breeding recorded in April. Sálím Ali collected a male from Utnoor (Ali and Whistler 1933a). Majumdar (1984) reported it to be rather common and collected two females from Itikyál and a male from Birsáipet.

**262. Indian Robin *Saxicoloides fulicata* (Linné)**

Common. Resident breeder. Regularly seen throughout the Sanctuary. Sálím Ali collected a male and a female of this species from Utnoor (Ali and Whistler 1933a). Majumdar (1984) reported it to be exceedingly common and collected ten male and eight female specimens from Itikyál, and a male from Kadam.

**263. Blue Rock-thrush *Monticola solitarius* (Linné)**

Uncommon. Winter migrant. Frequently seen along open scrub and teak mixed miscellaneous forest interspersed with hillocks. Sálím Ali collected a male from Utnoor (Ali and Whistler 1933a).

**264. Orange-headed Thrush**

***Zoothera citrina* (Latham)**

Uncommon. Resident breeder. Regularly seen in teak mixed miscellaneous forest, teak mixed bamboo forest and teak plantation. Copulating pairs were observed during June 1998. Sálím Ali collected a pair of specimens from areas adjoining Utnoor (Ali and Whistler

1933a). Majumdar (1984) reported it to be not common and collected a pair from Birsáipet.

**265. Eurasian Blackbird *Turdus merula* Linné**

Uncommon. Probably a seasonal local migrant. Frequently met with in open scrub, nearby cultivated and fallow fields, and teak mixed miscellaneous forest.

**266. Great Tit *Parus major* Linné**

Common. Resident breeder. Regularly seen affecting well-wooded tracts of the Sanctuary, more commonly in the vicinity of Pembí and Itikyál areas. Ali and Whistler (1933a) recorded this species from Utnoor. Majumdar (1984) found it to be common and collected six males and five females from Itikyál, and a male from Birsáipet.

**267. Black-lored Yellow Tit**

***Parus xanthogenys* Vigors**

Uncommon. Resident breeder. Infrequently seen in well-wooded areas of the Sanctuary preferring hilly tracts. Sálím Ali collected a specimen (unsexed) from Utnoor (Ali and Whistler 1933a).

**268. Chestnut-bellied Nuthatch**

***Sitta castanea* Lesson**

Uncommon. Probably a resident breeder. Frequently seen in teak plantation patches, in a mango orchard (near Kadam) and forest nursery (Tadlapet and Kadam).

**269. Velvet-fronted Nuthatch**

***Sitta frontalis* Swainson**

Rare. Probably a resident breeder. Met with twice, near Rampur and Alinagar, during November 1997 and January 1998.

**270. Spotted Creeper *Salpornis spilonotus* (Franklin)**

Uncommon. Probably a resident breeder. Infrequently seen in teak mixed miscellaneous forest and teak plantation patches near Alinagar, Donga-pally, Rampur, Udhampur, Dosthnagar, Kalleda, Indhanpally, Birsáipet and Itikyál areas. Ali and Whistler (1933a) did not come across this species at Utnoor. Majumdar (1984) reported it for the first time from Adilabad district and collected two females from Kotpally near the border of Andhra Pradesh and Maharashtra. Recently, this species was reported from Kawal Wildlife Sanctuary in May 1997 (Pittie 1997).

**271. Oriental Tree Pipit *Anthus hodgsoni* Richmond**

Rare. Twice sighted in small flocks (4 and 9 birds) in January 1998 and February 1999 near Birsáipet and

Rampur areas. Majumdar (1984) reported it to be rather uncommon and collected a male specimen from Birsaiptet.

**272. Paddyfield Pipit**  
*Anthus rufulus* Vieillot

Common. Resident breeder. Frequently seen in open scrub, cultivated and fallow fields within the Sanctuary.

**273. Forest Wagtail**  
*Dendrouanthus iudicus* (Gmelin)

Uncommon. Winter migrant. Infrequently seen in teak mixed miscellaneous forest and teak plantation patches.

**274. Yellow Wagtail** *Motacilla flava* Linné  
Uncommon. Winter migrant. Two subspecies, *M.f. thunbergi* (grey-headed race) and the less common *M.f. beema* (blue-headed race) recorded near water edges throughout the Sanctuary.

**275. Citrine Wagtail** *Motacilla citreola* Pallas  
Common. Winter migrant. Seen in small flocks near water edges throughout the Sanctuary.

**276. Grey Wagtail** *Motacilla cinerea* Tunstall  
Uncommon. Winter migrant. Infrequently met with near stream beds and water edges throughout the Sanctuary. Sálím Ali collected one female from Utnoor (Ali and Whistler 1933c).

**277. White Wagtail** *Motacilla alba* Linné  
Common. Winter migrant. Seen along edges of waterbodies, stream beds, and cultivated and fallow fields. Majumdar (1984) found it to be common, and collected a female from Birsaiptet.

**278. Large Pied Wagtail**  
*Motacilla naderaspatensis* Gmelin  
Common. Resident breeder. Affects open scrub, cultivated and fallow fields, and nearby village enclosures throughout the Sanctuary. Nests were observed during March to April and were located near waterbodies, holes in the Kadam Dam, bridges and also in wells. Majumdar (1984) found it to be common and collected a male specimen from Itikyal.

**279. Thick-billed Flowerpecker**  
*Dicaeum agile* (Tickell)  
Common. Resident breeder. Seen throughout the Sanctuary. Ali and Whistler (1933c) recorded it from Utnoor.

**280. Tickell's Flowerpecker**  
*Dicaeum erythrorhynchos* (Latham)  
Common. Resident breeder. Seen throughout the Sanctuary. Ali and Whistler (1933c) reported it as not common from areas adjoining Utnoor.

**281. Purple-rumped Sunbird**  
*Nectarinia zeylonica* (Linné)  
Common. Resident breeder. Seen throughout the Sanctuary, but sightings were fewer in thick teak mixed bamboo forest. Sálím Ali reports a sighting on October 15, 1925 from Nirmal (Ali and Whistler 1933c). Majumdar (1984) reported it to be quite common and collected a female specimen from Kadam.

**282. Purple Sunbird** *Nectarinia asiatica* (Latham)  
Common. Resident breeder. Affects teak mixed miscellaneous forest, teak plantation patches, nurseries, orchards, cultivated and fallow fields, and also near human habitations. Majumdar (1984) reported it to be very common and collected a pair of specimens from Itikyal.

**283. Little Spiderhunter**  
*Arachnothera longirostra* (Latham)  
Uncommon. Probably a resident breeder. Flocks of 3 to 8 individuals regularly seen in mixed feeding flocks with sunbirds, white-eyes and flycatchers near Alinagar and Rampur areas especially along the core area boundary.

**284. Oriental White-eye**  
*Zosterops palpebrosus* (Temminck)  
Common. Resident breeder. Frequently seen throughout the Sanctuary, affecting teak mixed miscellaneous forest, teak plantation patches, nurseries and orchards. Ali and Whistler (1933c) recorded this species from Utnoor. Majumdar (1984) reported it to be rather uncommon and collected two male specimens from Kadam.

**285. House Sparrow** *Passer domesticus* (Linné)  
Common. Resident breeder. Ubiquitous in the Sanctuary, more common near human habitations. Majumdar (1984) reported it to be very common and collected a female specimen from Kadam.

**286. Yellow-throated Sparrow**  
*Petronia xanthocollis* (Burton)  
Uncommon. Resident breeder. Infrequently seen near cultivated tracts within the Sanctuary. Sálím Ali collected a male specimen from areas adjoining Utnoor (Ali and Whistler 1933c). Majumdar (1984) reported it

to be very common and collected 19 males and 12 females from Itikyál, and a male and two females from Birsáipet.

**287. Baya Weaver *Ploceus philippinus* (Linné)**

Common. Resident breeder. Affects all forest types throughout the Sanctuary, being more common near cultivated fields, human habitations and stream beds. Practice nests were found deep inside the teak mixed bamboo forests too. Sálím Ali collected one male from Utnoor (Ali and Whistler 1933c). Majumdar (1984) reports it to be not common, and collected 18 males and 14 females from Kadam.

**288. Streaked Weaver *Ploceus manyar* (Horsfield)**

Uncommon. Resident breeder. Regularly seen along the well-wooded tracts of the Sanctuary, especially in the vicinity of Kadam Reservoir.

**289. Red Munia *Amandava amandava* (Linné)**

Common. Resident breeder. Frequently seen along the cultivated tracts of the Sanctuary, especially between Rampur and Utnoor. Sálím Ali collected a male, a female and two immature specimens from Utnoor (Ali and Whistler 1933c). Majumdar (1984) reports it to be quite common and collected a female from Kadam.

**290. White-throated Munia**

***Lonchura malabarica* (Linné)**

Common. Resident breeder. Seen throughout the Sanctuary near cultivated tracts and open scrub. Ali and Whistler (1933c) recorded this species from Utnoor. Majumdar (1984) reported it to be very common and collected two females from Itikyál and a pair from Kadam.

**291. White-rumped Munia *Lonchura striata* (Linné)**

Common. Resident breeder. Seen throughout the Sanctuary near cultivated tracts.

**292. Spotted Munia *Lonchura punctulata* (Linné)**

Common. Resident breeder. Seen throughout the Sanctuary, affecting open scrub, teak mixed miscellaneous forest and cultivated patches. Ali and Whistler (1933c) did not record this species from Utnoor. Majumdar (1984) reported it to be very common, and collected two males and four females from Itikyál and a pair from Kadam.

**293. Black-headed Munia**

***Lonchura malacca* (Linné)**

Common. Resident breeder. Seen restricted to paddies and other cultivated tracts within the Sanctuary.

**294. Common Rosefinch *Carpodacus erythrinus* (Pallas)**

Uncommon. Winter migrant. Seen a few times in teak mixed miscellaneous forest patches near Rampur, Janaram and Indhanpally. Ali and Whistler (1933c) did not record this species from Utnoor. Majumdar (1984) reported it as rather uncommon, and collected a male and four females from Itikyál.

Ali and Whistler (1933a, b, c; 1934a, b) recorded about 111 species from Utnoor, and 16 species that were reported later or during the present survey as conspicuously absent here (Table 2). Majumdar (1984) reported a total of 95 species from Birsáipet, Kadam and Itikyál. A total of nine species that were recorded earlier by Ali (1933-34) and Majumdar (1984) but not during the present survey are Darter *Anhinga melanogaster* (Pennant), Little Green Heron *Butorides striatus* (Linné), Pintail Snipe *Gallinago stenura* (Bonaparte), Green Sandpiper *Tringa ochropus* Linné, Stork-billed Kingfisher *Halcyon capensis* (Linné), Bluethroat *Luscinia svecica* (Linné), Desert Wheatear *Oenanthe deserti* (Temminck) between Utnoor and Nirmal, Green Munia *Amandava formosa* (Latham) and Red-headed Bunting *Emberiza bruniceps* Brandt.

## CONCLUSIONS

The secure and dense teak mixed forest, teak mixed bamboo forest and teak plantations interspersed with miscellaneous species provide good habitat for rich avifaunal diversity in Kawal Wildlife Sanctuary. The bird diversity at Kawal represents 90% of the families and 57% of the species reported from Andhra Pradesh (Taher and Pittie 1989, 1994). The Sanctuary is contiguous with a vast tract of forest between the Godavari river basin in the south, the Wardha river basin in the north and Indravathi river basin in the northeast to east. Sighting of rarer bird species (e.g. *Dryocopus javensis*, *Chrysocolaptes festivus*, *Salpornis spilonotus*, *Arachnothera longirostra*) indicates that regular thorough surveys will yield interesting information on distribution patterns of some species that were either not reported earlier from this region or are sparsely distributed through central India. Although reported earlier from nearby areas, both the Forest Owlet *Heteroglaux blewitti* and Jerdon's Courser *Rhinoptilus bitorquatus* were not sighted during the present survey, or in the Eturnagaram Wildlife Sanctuary (Srinivasulu under prep.) further downstream the Godavari river. The habitat at Kawal is increasingly coming under biotic pressure due to the escalating human population in and around the Sanctuary. Unprecedented changes in the

Table 2: List of species not recorded by Ali (1933-34) but seen later or during the present survey

Order	Family	Scientific Name	Common Name	Entry No.*
Galliformes	Phasianidae	<i>Francolinus pondicerianus</i>	Grey Francolin	71
Charadriiformes	Charadriidae	<i>Pluvialis fulva</i>	Pacific Golden-plover	97
	Recurvirostridae	<i>Himantopus himantopus</i>	Black-winged Stilt	111
Strigiformes	Strigidae	<i>Otus bakkamoena</i>	Collared Scops-owl	143
Passeriformes	Laniidae	<i>Lanius excubitor</i>	Southern Grey Shrike	190
	Dicruridae	<i>Dicrurus paradiseus</i>	Racket-tailed Drongo	200
	Campephagidae	<i>Pericrocotus erythropygius</i>	White-bellied Minivet	217
	Pycnonotidae	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	221
	Muscicapidae	<i>Pellorneum ruficeps</i>	Spotted Babbler	224
		<i>Turdoides malcolmi</i>	Large Grey Babbler	228
		<i>Muscicapa muttui</i>	Brown-breasted Flycatcher	232
		<i>Eumyias thalassina</i>	Verditer Flycatcher	236
		<i>Culicicapa ceylonensis</i>	Grey-headed Flycatcher	237
		<i>Prinia buchanani</i>	Rufous-fronted Prinia	244
	Estrildidae	<i>Lonchura punctulata</i>	Spotted Munia	292
Fringillidae	<i>Carpodacus erythrinus</i>	Common Rosefinch	294	

\*Order of appearance same as in the annotated checklist

habitat due to anthropogenic activities such as forest clearing for agriculture will affect the avifaunal diversity considerably, as has been observed elsewhere in Andhra Pradesh (Vasudeva Rao *et al.* 1997).

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